What is claimed is:

1. A matting agent for thermally curable systems that comprise at least one carboxyl-containing polymer as binder and at least one epoxy-group-containing compound as cross-linking agent, wherein the matting agent comprises at least the following constituents:

(a) a metal salt or a metal complex of an organic compound, the metal being selected from the group magnesium, calcium, strontium, barium, zinc, aluminium, tin and antimony, and

(b) a polymerisation product of monomers, the monomers including epoxy-group-containing monomers and the epoxy value of the polymerisation product being at least 0.1, preferably from 0.1 to 8, equivalents of epoxy groups, and

overall the ratio of epoxy equivalents of component (b) to metal equivalents of component (a) being from 0.2 to 120.

2. A matting agent according to claim 1, wherein constituent

(b) is a polymerisation product of monomers, the monomers including epoxy-group-containing monomers and the epoxy value of the polymerisation product being at least 1.5, preferably from 1.5 to 8, equivalents of epoxy groups, and

overall the ratio of epoxy equivalents of component (b) to metal equivalents of component (a) being at least 3.0, preferably at least 3.5.

3. A matting agent according to either claim 1 or claim 2, wherein the ratio of epoxy equivalents of component (b) to metal equivalents of component (a) is up to 30.

4. A matting agent according to any one of claims 1 to 3, wherein the metal is selected from the group magnesium, calcium, aluminium and zinc, and is preferably zinc.

5. A matting agent according to any one of claims 1 to 4, wherein the metal salt or metal complex is a salt or a complex of a carboxylic acid, preferably a mono- or di-carboxylic acid, or of a dimeric or oligomeric unsaturated fatty acid.

6. A matting agent according to claim 4, wherein the metal salt and/or the metal complex is an aluminium or magnesium stearate, aluminium or zinc acetylacetonate, zinc methacrylate or zinc arachidate, zinc pentachlorothiophenolate or zinc 2-benzothiazole thiolate, preferably zinc 2-benzothiazole thiolate.

7. A matting agent according to any one of claims 1 to 6, wherein component (b) includes a glycidyl (meth)acrylate homopolymer or a glycidyl (meth)acrylate copolymer, where appropriate having different molecular weights and based on different comonomers, or a mixture of such compounds.

8. A matting agent according to any one of claims 1 to 7, wherein component (b) includes one or more polymers containing glycidyl ester groups and, optionally, glycidyl ether groups and having an average molecular weight (Mw = weight average from GPC measurement using polystyrene calibration) of from 1000 to 30 000.

9. A matting agent according to any one of claims 1 to 8, wherein component (b) includes one or more polyglycidyl (meth)acrylate polymers or copolymers having an average molecular weight (Mn) in the range from 1000 to 30 000, preferably from 2000 to 15 000.

10. A matting agent according to any one of claims 1 to 9, wherein component (b) includes polymers that have a glass transition temperature (Tg; determined by DSC at a heating rate of 5°C/min) in the range from 20°C to 120°C, preferably in the range from 40°C to 100°C.

11. A matting agent according to any one of claims 1 to 10, wherein the ratio of the epoxy equivalents of component (b) to the metal equivalents of component (a) is in the range from 0.4 to 30.

12. A matting agent according to any one of claims 2 to 10, wherein the ratio of the epoxy equivalents of component (b) to the metal equivalents of component (a) is in the range from 4.0 to 20.

13. A matting agent according to any one of claims 1 to 12, that comprises in addition

(c) a natural or synthetic wax or a wax-like substance.

14. A matting agent according to any one of claims 1 to 13, that comprises further customary additives, preferably fillers, light stabilizers, dyes, pigments, degassing agents, adhesive agents, thixotropic agents and flow agents.

15. A matting agent according to any one of claims 1 to 14, that is present in an average particle size in the range from 0.015 µm to 1000 µm, preferably from 5 µm to 500 µm.

16. A matting agent according to any one of claims 1 to 15 in the form of a solid mixture, wherein it comprises at least the following constituents:

(a) a zinc salt or a zinc complex of an organic compound, preferably a zinc salt of mercaptobenzothiazole, and

(b) a polymerisation product of monomers, the monomers including epoxy-group-containing monomers and the epoxy value of the polymerisation product being from 0.1 to 8 equivalents of epoxy groups per kilogram, preferably a corresponding glycidyl (meth)acrylate polymer or copolymer having a molecular weight (Mn) preferably in the range from 2000 to 15 000, and

(c) optionally, a polyolefin wax, preferably a polyethylene wax having a melting range from 50°C to 120°C (measured by DSC at a heating rate of 5°C/min),

the ratio of epoxy equivalents of component (b) to metal equivalents of component (a) overall being from 0.2 to 120, preferably from 0.4 to 30.

17. A matting agent according to any one of claims 2 to 15 in the form of a solid mixture, wherein it comprises at least the following constituents:

(a) a zinc salt or a zinc complex of an organic compound, preferably a zinc salt of mercaptobenzothiazole, and

(b) a polymerisation product of monomers, the monomers including epoxy-group-containing monomers and the epoxy value of the polymerisation product being from 1.5 to 8 equivalents of epoxy groups per kilogram, preferably a corresponding glycidyl

(meth)acrylate polymer or copolymer having a molecular weight (Mn) preferably in the range from 2000 to 15 000, and

(c) optionally, a polyolefin wax, preferably a polyethylene wax having a melting range from 50°C to 120°C (measured by DSC at a heating rate of 5°C/min),

the ratio of epoxy equivalents of component (b) to metal equivalents of component (a) overall being from 3.5 to 30.

18. The use of a matting agent according to any one of claims 1 to 17 in thermally curable systems, especially in surface-coating compositions, preferably in powder coating compositions, that comprise at least one carboxyl-containing polymer, preferably a carboxyl-terminated polyester and/or a carboxyl-containing (meth)acrylate polymer, as binder and at least one epoxy-group-containing compound or a mixture of an epoxy-group-containing compound and a hydroxyalkylamide compound as hardener or cross-linking agent and, optionally, an accelerator for the cross-linking reaction of the hardener with the carboxyl-containing polymer and also further additives that are customary *per se*.

19. Use according to claim 18, wherein the matting agent is added in an amount of up to 20% by weight, preferably in an amount of from 1 to 10% by weight, based on the total weight of binder and hardener in the thermally curable system.

20. The use of a matting agent according to any one of claims 1, 11 and 16 in thermally curable systems, especially in surface-coating compositions, preferably in powder coating compositions, that comprise at least one carboxyl-containing polymer, preferably a carboxyl-terminated polyester and/or a carboxyl-containing (meth)acrylate polymer, as binder and at least one epoxy-group-containing compound or a mixture of an epoxy-group-containing compound and a hydroxyalkylamide compound as hardener or cross-linking agent and, optionally, an accelerator for the cross-linking reaction of the hardener with the carboxyl-containing polymer and also further additives that are customary *per se*, wherein the epoxy-group-containing compound does not include any glycidyl esters that have a molecular weight of up to and including 1500.

21. The use of a matting agent according to any one of claims 2, 12 and 17 in thermally curable systems, especially in surface-coating compositions, preferably in powder coating compositions, that comprise at least one carboxyl-containing polymer, preferably a carboxyl-terminated polyester and/or a carboxyl-containing (meth)acrylate polymer, as binder and at least one epoxy-group-containing compound or a mixture of an epoxy-group-containing compound and a hydroxyalkylamide compound as hardener or cross-linking agent and, optionally, an accelerator for the cross-linking reaction of the hardener with the carboxyl-containing polymer and also further additives that are customary *per se*, wherein the epoxy-group-containing compound is a mixture of a diglycidyl compound and a triglycidyl compound, preferably a mixture of diglycidyl terephthalate and triglycidyl trimellitate, those compounds preferably being present in a ratio by weight of diglycidyl compound to triglycidyl compound of from 10:1 to 1:10, and especially approximately 3:1 to 1:1.

22. A thermally curable system, especially a surface-coating composition, preferably a powder coating composition, that comprises at least one carboxyl-containing polymer, preferably a carboxyl-terminated polyester and/or a carboxyl-containing (meth)acrylate, and at least one epoxy-group-containing compound or a mixture of an epoxy-group-containing compound and a hydroxyalkylamide compound as hardener or cross-linking agent and, optionally, an accelerator for the cross-linking reaction of the hardener with the carboxyl-containing polymer and also further additives that are customary *per se*, which system comprises a matting agent according to any one of claims 1 to 17.

23. Fully cured system according to claim 22.

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